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# THE FUNGI OF BLACKSBURG, VIRGINIA

W. A. MURRILL

During the latter half of July, 1920, the following fungi—over 150 species—were found by the writer in the vicinity of Blacksburg, Virginia, mostly in oak-chestnut groves with white oak predominating. The elevation is 2,200 feet and the underlying rock near the town is Trenton limestone, while on Brush Mountain, a mile or two to the north, the soil had its origin in subcarboniferous shales and sandstones. On account of the excellent season, many valuable field notes and several novelties were obtained, especially of the fleshy forms. Attention is called to observations in connection with *Ceriomyces retipes*, *Hexagona alveolaris*, *Vaginata plumbea*, and *Venenarius cothurnatus*.

## A. ASCOMYCETES

*Bulgaria rufa*. More abundant than I have ever before seen it, on fallen dead branches and trunks of white oak in Preston's Woods and elsewhere. *Hypomyces lactifluorum*. Common where I found it last year and enjoyed a mess of it mixed with the common *Chanterel*.

*Leotia stipitata*.

## B. HYMENOMYCETES

### a. TREMELLALES

*Tremella frondosa*.

*Tremella mycetophila*. On *Gymnopus dryophilus*.

*Tremella sparassoides*. Under white oak. See figure and description by Overholts in *Mycologia* for May, 1920.

### b. AGARICALES

#### 1. Thelephoraceae

*Craterellus cornucopioides*. Found three times.

*Lachnocladium Schweinitzii*. Abundant.

*Thelephora* spp. Three or four interesting species, mostly of the *T. palmata* group.

#### 2. Clavariaceae

*Clavaria cristata*. Found twice on a hillside in Preston's Woods growing in dense clusters among grass and leaves. Lemon-yellow, with a distinct odor difficult to define, the taste bitterish but not farinaceous.

*Clavaria flava*. Frequent in shaded situations.

*Clavaria fusiformis*. Found twice. A splendid typical cluster was collected under *Rhododendron maximum* at the foot of Brush Mountain near Kanode's Mill.

*Clavaria inaequalis*. Found once.

*Clavaria muscoides*. A small species growing in moss at the base of a white oak in Preston's Woods. Lemon-yellow throughout, fragile, taste farinaceous and bitterish, odor none.

*Clavaria* sp. In leaf-mold under an oak in Preston's Woods. Large and beautifully colored, reminding one of a bunch of coral. Rose-pink and flavous to slightly chrome-yellow. Flavor fine, odor none. Dr. Coker has found this species in North Carolina and will describe it.

### 3. Hydnaceae

*Hydnellum zonatum*? Gregarious and abundant on a dry bank on Brush Mountain among roots and weeds. Thin, dry, small, with pale margin and strongly farinaceous odor and taste.

*Manina cordiformis*. Found in Preston's Woods in a dead spot on a living trunk of pig-nut hickory.

*Steccherinum adustum*. Common. I found a fine clump on a white oak log.

*Steccherinum pulcherrimum*. On a white oak log. Large, imbricate, isabelline with fulvous strains on the surface; context tough, sweetish.

### 4. Xylophagaceae

*Merulius tremellosus*. On a white oak log.

### 5. Polyporaceae

*Bjerkandera adusta*.

*Cerrena unicolor*.

*Coriolus versicolor*.

*Daedalea confragosa*.

*Daedalea juniperina*. On red cedar stump on the bank of Toms Creek. This rare species was previously known from Kansas, Missouri, Kentucky, and South Carolina, always confined to red cedar.

*Daedalea quercina*. On an oak stump. A rare species in this locality.

*Elfvingia lobata*. Abundant on white oak stumps and at the base of living red maple, hickory, white oak, etc. Evidently parasitic, like its northern relative, *E. megaloma*.

*Fulvifomes Robiniae*. Common on black locust trunks about Blacksburg and at Mountain Lake.

*Grifola Berkeleyi*. I found three very large specimens, all growing by oak trees.

*Grifola flavovirens*. On the ground in woods, where I found it many years ago.

*Hexagona alveolaris*. Common on fallen hickory branches. *H. striatula* was also common on the same host but not on the same actual branch. I think it is undoubtedly only a variety of *H. alveolaris*. In Europe, this species causes a serious disease of the English walnut and we must be prepared to expect it in our walnut and hickory orchards in this country.

*Laetiporus sulphureus*. Covering an oak stump.

*Polyporus arcularius*. Frequent on fallen sticks.

*Polyporus elegans*.

*Poronidulus conchifer*.

*Pycnoporus cinnabarinus*. On oak fence rails,—an uncommon host.

*Tyromyces lacteus*.

*Tyromyces semipileatus*. On a white oak log.

#### 6. Boletaceae

*Ceriomyces affinis*. Found twice.

*Ceriomyces bicolor*.

*Ceriomyces chromipes*.

*Ceriomyces communis*. Abundant.

*Ceriomyces edulis*. Found a few times,—the brown form only.

*Ceriomyces fumosipes*. Found once or twice.

*Ceriomyces griseus*. Found several times, usually growing alone, but once near *C. retipes*. The species is very distinct from *C. retipes* and is never bitter, even in old plants.

*Ceriomyces retipes*. Several beautiful yellow specimens were found in oak groves, none of them resembling *C. ornatipes* in color, and all of them very distinct from *C. griseus*. Careful observations were made on all specimens found, and it was established beyond a doubt that *C. retipes* is decidedly bitter in all stages and therefore unfit for food, while *C. griseus* is edible. The stipe is much the same in both species but in *C. griseus* the reticulations are smaller and more shallow. The tubes, flesh, and surface, as well as taste, are decidedly different in the two plants.

*Ceriomyces subglabipes*. Found two or three times in grassy oak woods. Pileus reddish-fulvous, glabrous, rugose; flesh lemon-yellow, with taste reminding one of potassium nitrate; tubes and stipe also lemon-yellow.

*Ceriomyces* sp. Gregarious under white oaks. Fulvous, rugose, 7-10 cm. in diameter; context nutty, white, becoming skin-colored when bruised; tubes lemon-yellow, browning when bruised; stipe yellowish, chaffy, 10-12  $\times$  2-2 $\frac{1}{2}$  cm. Characterized by numerous scurfy particles on the stipe. I found upon my return that Dr. Coker had recently collected this same species in North Carolina, so I have suggested that he name it and include the Blacksburg locality.

*Rostkovites granulatus*.

*Strobilomyces strobilaceus*. Frequent.

*Suillellus luridus*. Abundant.

*Tylopilus felleus*. Very common and large. One group was practically white, growing in an opening in the woods. Could they have been bleached?

*Tylopilus gracilis*.

#### 7. Agaricaceae

*Agaricus* sp. Only two specimens were found and these were solitary at different points in oak groves.

*Armillaria putrida*. Found only once.

*Chanterel Chantarellus*. Abundant.

*Chanterel floccosus*.

*Chanterel infundibuliformis.*

*Clitocybe adirondackensis.* Quite abundant in white oak woods, growing gregariously.

*Clitocybe illudens.* Frequent about stumps in fields and woods.

*Coprinus fimetarius.*

*Coprinus micaceus.*

*Cortinarius semisanguineus.* Frequent.

*Cortinarius* sp. Very common in oak woods and found about the same time a year ago. A striking species with fulvous cap and very distant gills. It is usually strongly umbonate when young.

*Cortinellus rutilans.* Beside a pitch pine stump on an exposed bank on Brush Mountain.

*Entoloma commune.* Growing on grassy ground under white oaks.

*Entoloma Grayanum.* Half a dozen plants found growing gregariously in one spot.

*Entoloma pallidum.* On the ground in oak woods.

*Galerula crispa.* Found in a straw pile in an open field.

*Geopetalum angustatum.* Found twice.

*Geopetalum petaloides.* In an open grassy spot under white oaks. Found only once, but I do not recall having seen it in Virginia before.

*Gymnopus dryophilus.*

*Gymnopus exsculptus.* Found on dead wood on Brush Mountain. The margin of the pileus had become nearly black.

*Gymnopus platyphyllus.* Frequent.

*Gymnopus radicatus.* I found a large, gray form like *G. longipes*, with nearly glabrous stipe and another just like it, only with a cream umbo. Both were slimy and rugose on the surface.

*Gymnopus strictipes.*

*Hebeloma* sp. Gregarious and very abundant in low places under elm, birch, and fir trees on the college campus. Pileus cream-colored, slightly viscid. with mealy odor and taste; stipe milk-white.

*Hydrocybe ceracea.*

*Hydrocybe conica.* Growing gregariously in the grass at the edge of woods.

*Hydrocybe flammea.* Quite common; sometimes very small.

*Hydrocybe psittacina.*

*Hypholoma appendiculatum.*

*Hypholoma lacrymabundum.* Found once.

*Inocybe geophylla.* Found twice.

*Inocybe* spp. Probably six species, which I have not determined.

*Laccaria laccata.* Common.

*Laccaria ochropurpurea.* Two plants found.

*Lactaria Indigo.* Found once. Easily recognized by its color.

*Lactaria lactiflua.* Abundant.

*Lactaria piperata.* Abundant.

*Lactaria scrobiculata.* An attractive species having concentric zones and being tomentose on the margin when young. This was found under white oaks in Karr's Woods where I saw it several years ago.

*Lactaria subdulcis.*

*Lactaria* spp. One resembling *L. varia*, but with broad, distant gills. Another near *L. cinerea*. Very uniform in appearance and size. In dry, grassy places under white oaks in Preston's Woods.

*Marasmius glabellus*.

*Marasmius oreades*. Abundant.

*Marasmius rotula*.

*Marasmius* spp. Several which I have not determined.

*Melanoleuca alboflavida*. Rather abundant in a semi-shaded spot in oak woods, growing in leaf-mold. The specimens are rather above the average size of the species.

*Melanoleuca melaleuca*. Small, pallid plants growing among grass on an exposed lawn.

*Omphalopsis campanella*. On an oak stump. Frequent about Blacksburg on both deciduous and coniferous wood. Very abundant at Mountain Lake.

*Panaeolus campanulatus*.

*Panaeolus retirugis*.

*Panaeolus semiglobatus*.

*Panellus stypticus*.

*Pholiota Johnsoniana*. Large plants with a ring that falls away and very small plants, growing gregariously, with the ring breaking up as in *H. ap-pendiculatum*. Size very different but the same plant.

*Pleuropus albogriseus*. Gregarious or cespitose in grassy woods. Spores angular, uniguttulate,  $12 \times 7 \mu$ . Previously known from New York and Massachusetts.

*Pleuropus obesus*.

*Pleurotus ostreatus*.

*Pluteus cervinus*. Frequent.

**Pluteus praerugosus** sp. nov.

Pileus convex to nearly plane, with a slight umbo in early stages, solitary, 3-4 cm. broad; surface glabrous, very rugose, dry, fuliginous, darker at the center, long-striate on the margin; lamellae free, tapering behind, rather crowded, entire on the edges, white until colored by the spores, which are perfectly globose, smooth, with very large nucleus, almost hyaline under the microscope, pinkish in mass,  $5 \mu$  in diameter; stipe slender, nearly equal, pallid, glabrous, 3-4 cm. long, not at all twisted.

Type collected on a dead white oak log in Preston's Woods, Blacksburg, Virginia, July 16-31, 1920, *W. A. Murrill*.

*Prunulus* sp. Growing in clusters on a dead white oak log.

*Psilocybe foenesecii*. Common.

*Russula albida*. Small and rare.

*Russula compacta*. Pale-fulvous above with a chestnut tint, milk-white below, staining when touched; flesh sweet.

*Russula delica*.

*Russula emetica*. Common.

*Russula foetens*. Abundant.

*Russula furcata*. Abundant.

*Russula nigricans*. Found twice, and in both cases soon blackening.

*Russula virescens*. Abundant. Eaten by box tortoise, which was just leaving the plants, the ground being covered with chips as usual. Evidently he turned to this species when *Vaginata plumbea* was exhausted.

*Russula* spp. One milk-white all over, cespitose. Another large, with yellow cap, milk-white stem, and almost white gills.

*Stropharia semiglobata*.

*Vaginata farinosa*. Once in oak woods and twice on Brush Mountain.

*Vaginata parcivolvata*. Six or more plants growing near together and bringing up scraps of dirt that resembled volval patches.

*Vaginata plumbea*. Common in half a dozen varieties, including a large white one, but the fulvous form was most abundant. This last was especially liked by the box tortoise, which was found several times in different parts of oak groves feeding upon it. I was walking early one morning in Broce's white oak grove when I came upon two plants of this variety growing together and a tortoise beside them, which had devoured half of each plant. When I returned thirty minutes later, he had finished them, stems and all, down to the ground, leaving only a few chips that fell from his mouth while eating. He evidently preferred this species, because many specimens were found, either partly or entirely devoured in this manner peculiar to tortoises. Squirrels take the plants up and carry them to a stump, log, or tree. I was able to confirm my observations as to tortoises by watching two or three more at breakfast later in the week. When practically all the specimens of *Vaginata plumbea* in the woods were gone, *Russula virescens* seemed to be the next choice.

*Venenarius Caesareus*. Rare.

*Venenarius cothurnatus*. Three pure-white plants were first found growing gregariously under a white oak in Broce's Woods. Flies sucked their juice while drying and promptly fell over, apparently lifeless. In order to determine if they were really dead, I kept them covered for twenty-four hours,—and still have them with the specimens. The deadly character of this species was demonstrated later by using a "button" found in Preston's Woods, where I first saw the plant growing in abundance several years ago. A few days later, two good, typical plants were collected in the same woods and preserved. All of the specimens found about Blacksburg are white, showing no tendency to vary to darker forms.

*Venenarius flavorubescens*. Specimens closely resembling this species were found under white oak trees but it seemed difficult to distinguish them satisfactorily from *V. Frostianus*.

*Venenarius Frostianus*. Abundant.

*Venenarius phalloides*. Large and small white forms fairly abundant, ordinary dark form rare; also a whitish form with smoky center, and a large, shining, dark-lead-colored form,—the darkest I ever saw.

*Venenarius rubens*. Very abundant and of immense size, 20 cm. or more in diameter.

*Venenarius solitarius*. On the ground in woods. Base large and rounded, not radicate; surface white to grayish or reddish, covered with large warts; chlorine odor very decided. Also found the usual form on clay banks.

*Venenarius* spp. Two species were found that were not recognized, an avel-laneous one in Preston's Woods and a pure-white one in exposed sandy soil on Brush Mountain. The latter resembled *V. cothurnatus* but had no boot and did not kill flies.

## C. GASTEROMYCETES

*Bovistella ohiensis*. On a sunny lawn growing in grass. Large, white, covered with numerous small spines and granules, becoming brownish on top with age and isabelline all over when dried. This species is said to be very common in Ohio; I have found it also in New York City.

*Crucibulum vulgare*.

*Geaster hygrometricus*.

*Lycoperdon cruciatum* (*Lycoperdon separans* Peck). Common in fields.

*Lycoperdon gemmatum*. Occasional.

*Lycoperdon* spp. Three small species were found that I did not recognize. One was very smooth and white and grew in fields with *L. cruciatum*; another, found rarely in woods, had a smooth, grayish-marbled, reticulate-rimose surface; and the third, occurring frequently in woods, was distinguished by a dense covering of small, whitish to discolored spines.

*Scleroderma verrucosum*. On the campus in a low, shaded spot.

NEW YORK BOTANICAL GARDEN.